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(54) Title: ARGININE HYDROCHLORIDE ENHANCES CHAPERONE-LIKE ACTIVITY OF ALPHA CRYSTALLIN

(57) Abstract: The present invention provides that arginine, a biologically compatible molecule that is known to bind to the peptide backbone and negatively charged side-chains, increases the chaperone-like activity of a-crystallin significantly. Arginine, interestingly, restores the activity of mutant protein to a considerable extent. The invention shows the effect of arginine on the structural changes of a-crystallin by circular dichroism, fluorescence and glycerol gradient sedimentation. The invention shows that arginine brings about subtle changes in the tertiary structure and significant changes in the quaternary structure of a-crystallin and enhances its chaperone activity significantly. This invention thus has role in designing strategies to improve chaperone function for therapeutic applications.

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